Docket No.: 99-469

REMARKS

Introductory Comments

The previous Office Action (dated June 10, 2005) rejected claims 1-30, 53, and 54
under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,122,361 ("Gupta") in
view of U.S. Patent No. 6,122,614 ("Kahn"). In response to Applicants' Amendment filed
September 9, 2005, the Examiner added U.S. Patent No. 6,668,044 ("Schwartz") to the
combination of Gupta and Kahn. Accordingly, the present Office Action rejects all of the
presently pending claims (claims 1-4, 6-30, and 53-55) under 35 U.S.C. §103(a) as being
unpatentable over Gupta in view of Kahn and further in view of Schwartz.

No amendments have been made to the claims in this paper. Consequently, claims 1-
4, 6-30, and 53-55 remain pending in the application. Applicants respectfully request
reconsideration of the presently pending claims based on the reasons provided below.
Further, Applicants believe that there are also reasons other than those set forth below why
the pending claims are patentable, and reserve the right to set forth those reasons, and to
argue for the patentability of claims not explicitly addressed herein, in future papers.

Failure of the Office Action to Address All of the Claim Limitations

After careful consideration of the Office Action, it appears that the Examiner has
failed to address all of the claim limitations in the presently pending claims. On pages 2 and
3 of the Office Action, the Examiner relies upon the same reasoning to reject all of the
independent claims. Regretfully, this blanket approach fails to consider the differences
between the independent claims. For example, independent claim 54 recites claim limitations
directed to "connecting the caller to a called party corresponding to the listing." These
limitations are not included in independent claim 1, for example, and are not addressed in the
Office Action's rejection of the independent claims. This is unfortunate, especially in view of
Applicants having brought this to the attention of the Examiner in previous Amendments.
(See, e.g., page 13 of Applicants' previous Amendment filed September 9, 2005.)

Failure of the Office Action to Address Several Arguments for Patentability

The Office Action also fails to address several arguments for patentability presented
in Applicants' previous Amendment (filed September 9, 2005), even though Applicants have
expressly requested that the Examiner address the arguments. (See, e.g., page 12 of
Applicants' previous Amendment.) By way of example, the Office Action fails to address

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Applicants' arguments for the patentability of claim limitations directed to presenting a telephone number corresponding to a listing to a caller, as recited in independent claims 1, 17, 29, 30, and 53. The Office Action also fails to address Applicants' arguments for the patentability of claim limitations directed to connecting a caller to a called party corresponding to an identified listing, as recited in independent claim 54. In addition, the Office Action fails to address Applicants' arguments for the patentability of claim limitations directed to determining whether a request includes a required word and accepting a listing identified as a potential match to the request when it is determined that the request includes the required word, as recited in independent claim 55 and dependent claims 7, 12, and 23.

The addition of Schwartz to the rejections presented in the Office Action does not address the above-listed arguments. The Office Action cites Schwartz for just one purpose - an alleged teaching of "access[ing] an archive for a database query (Fig. 7, subblocks 210,212, [sic] and 214)." (Page 3 of the Office Action.) Although the Office Action relies upon this alleged teaching of Schwartz to reject claim limitations directed to using a transcript as a query into a database, Schwartz is not used to address arguments for the patentability of other claim limitations.

As Applicants explained in their previous Amendment, MPEP 707.07(f) states that "[w]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the Applicant's argument and answer the substance of it." The Examiner's repeated failure to address each previously-presented ground for traversing the claim rejections should be construed as an admission of patentability of claims 1-4, 6-30, and 53-55 over the prior art of record. If for some reason, the Examiner continues to reject the claims, Applicants respectfully request that the Examiner expressly address each ground of traversal presented herein.

Rejection of Claims 1-4, 6-30, and 53-55 under 35 U.S.C. §103(a)

On page 2 of the Office Action, the Examiner rejected claims 1-30, 53, 54, and 55 under 35 U.S.C. §103(a) as being unpatentable over Gupta in view of Kahn. However, from the context of the rejections, it appears that the Examiner intended to reject claims 1-4, 6-30, and 53-55 under 35 U.S.C. §103(a) as being unpatentable over Gupta in view of Kahn and further in view of Schwarz.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. "Obviousness can only be established by combining or

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modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed Cir. 1992)." M.P.E.P. § 2143.01. Thus, a *prima facie* case of obviousness requires: (1) a suggestion or motivation to modify or combine the reference teachings; (2) a reasonable expectation of success; and (3) a teaching or suggestion in the prior art references of all of the claim limitations (MPEP 2143). For at least the reasons discussed below, the Office Action does not satisfy all of these requirements.

A.   Independent Claims 1, 17, 29, 30, and 53

1.   Using a transcript as a query into a database

Independent claims 1, 17, 29, 30, and 53 each recite claim limitations that are not taught or suggested in Gupta, Kahn, or Schwartz. For example, independent claim 1 recites, among other limitations, limitations directed to:

> ...a speech recognition module configured to receive an audible request for a telephone number from a caller and generate a transcript from the audible request;
> a listing retrieval module configured to retrieve at least one listing corresponding to the audible request from a database, the listing retrieval module being configured to <u>use the transcript as a query into the database</u>....
> (Emphasis added.)

Independent claims 17, 29, 30, and 53 recite similar claim limitations directed to retrieving a listing by using a transcript of a request as a query into a database. As disclosed in Applicants' specification, the use of transcripts of audible requests as queries into a database of listings allows Applicants' directory assistance systems and methods to facilitate automated directory assistance for large numbers of listings by using large vocabulary recognition techniques for both recognition and verification of requested listings. (See, e.g., page 18, line 1 to page 19, line 17 and page 26, lines 2-4 of Applicants' specification.) Moreover, the use of transcripts provides flexibility by permitting automated directory assistance even when a caller's request is phrased in a slightly novel way. (See, e.g., page 26, lines 5-6 of Applicants' specification.)

Gupta, Kahn, and Schwartz, taken alone or in combination, do not teach or suggest using a transcript as a query into a database, especially when these limitations are considered in the entire context of each respective claim. On page 3 of the Office Action, the Examiner

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correctly admits that Gupta does not teach "generating a transcript." The Examiner then asserts that Kahn "teaches the operator generating transcripts of the user input" and that the combination of Gupta in view of Kahn "teaches using the transcript." (Page 3 of the Office Action.) The Examiner admits that the combination of Gupta and Kahn fails to teach "storing the transcript to be used as a query." (Page 3 of the Office Action.) However, the Examiner then asserts that Schwartz, at subblocks 210, 212, and 214 of Figure 7, teaches "access[ing] an archive for a database query." Even if these assertions are assumed to be true for the sake of argument, however, the combination of Gupta, Kahn, and Schwartz still fails to teach or suggest claim limitations directed to retrieving a listing by <u>using a transcript of a request as a query into a database</u>.

Kahn fails to teach or suggest retrieving a listing by using a transcript of a request as a query into a database. Kahn is directed to an attempt to automate transcription services by moving acoustic model training tasks normally performed by end users of speech recognition software from the end users to both human operators and speech recognition programs that create written text from voice dictation. (Title; Abstract; and col. 2, lines 8-25 of Kahn.) After careful review of Kahn, however, Applicants cannot find any teaching or suggestion of <u>using transcripts of requests as queries into a database to retrieve listings</u>. Any transcript generated in Kahn is merely returned to the end user of the speech recognition software program. (Abstract of Kahn.) The teachings of Kahn are limited to transcription services and do not contain any teaching or suggestion of an application in which a generated transcript is used as a query into a database to retrieve a listing. Thus, Kahn fails to teach or suggest these claim limitations.

Gupta also fails to teach or suggest retrieving a listing by using a transcript of a request as a query into a database. Although Gupta discloses searching a speech recognition dictionary containing locality listings to identify matches for audible requests for a locality (Abstract of Gupta), Gupta is limited to finding the matches using <u>audible speech recognition techniques</u> and does not contain any teaching or disclosure of using a transcript of a request to search the speech recognition dictionary. In contrast to the use of transcripts to search a database, Gupta discloses a conversion of a spoken utterance into an electrical signal for transmission from a telephone to a speech recognition unit. (Col. 6, lines 35-37 of Gupta.) The electrical signal is segmented, normalized, and parameterized. (Col. 6, lines 40-43 of Gupta.) A search is then performed to find possible matches of the audible request in a speech recognition dictionary. (Col. 6, lines 45-50 of Gupta.) However, the electrical signal disclosed in this section of Gupta is an electrical <u>audio signal</u> representative of the audible

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request, as evidenced by the description at col. 6, line 51 to col. 7, line 17 of Gupta, which discusses how short segments (i.e., frames having duration ranges from 5-20 milliseconds) of the signal are processed at the pre-processing unit 102. Moreover, Gupta repeatedly discloses that the speech recognition is performed using acoustical characteristics and speech processing to find a match. (See, e.g., col. 2, lines 28-32; col. 2, lines 45-49; and col. 7, lines 21-22 of Gupta). Thus, the system of Gupta is equipped only to use audio signals to search a speech recognition dictionary, and Gupta does not contain any teaching of using a transcript of a request as a query into a database to retrieve a listing, as recited in claims 1, 17, 29, 30, and 53.

On page 2 of the Office Action, the Examiner continues to rely upon blocks 404-406 of Figure 3 of Gupta to reject claim limitations directed to retrieving a listing from a database using a transcript. However, neither blocks 404-406 nor the corresponding description contain any disclosure of using a transcript of a request to retrieve a listing. In contrast, block 404 of Gupta discloses a step for obtaining data for a called number, and block 406 of Gupta discloses a step for determining whether the called number is any one of a specific plurality of different telephone numbers that can be dialed to access Gupta's directory service system. (Figure 3 and col. 11, lines 17-26 of Gupta). If one of the specific telephone numbers for the directory service has been dialed, then the system of Gupta uses predefined locality probability tables to recognize and prioritize localities that might be associated with an audible request. (Steps 408-418 of Figure 3 of Gupta). In this manner, the system of Gupta is able to use an area code and/or a prefix associated with a telephone number to assist in identifying localities requested by callers. However, the area codes and prefixes are not transcripts of requests. Moreover, the area codes and prefixes are used merely to prioritize localities by probabilities based on calling patterns. The localities are still identified using audio signals to search a speech recognition dictionary of localities, as discussed above. Therefore, Gupta does not contain any teaching of using a transcript of a request as a query into a database to retrieve a listing, as recited in claims 1, 17, 29, 30, and 53.

On page 3 of the Office Action, the Examiner asserts that the combination of Gupta and Kahn teaches using a transcript. The Examiner relies upon a dotted arrow coming from subblock 402 of Figure 3 of Gupta to support this assertion. (Page 3 of the Office Action.) However, this assertion overlooks the fact that the system of Gupta is limited to finding matches using audible speech recognition and acoustic scoring techniques. Indeed, subblock 402 is directed to performing acoustic scoring to score and generate the list of orthographies to which the dotted arrow coming off of subblock 402 is pointing. (Col. 11, lines 4-10 of

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Gupta.) In view of the acoustic scoring limitations taught in Gupta, the alleged use of a transcript asserted by the Examiner is an unreasonable and improper interpretation of Gupta and Kahn at least because the interpretation directly contradicts the acoustic scoring operations taught in Gupta. Accordingly, the asserted combination of Gupta and Kahn does not teach or suggest using a transcript, much less using a transcript of a request as a query into a database.

Schwartz also fails to teach or suggest retrieving a listing by using a transcript of a request as a query into a database. On page 3 of the Office Action, the Examiner asserts that Schwartz "teaches access [sic] an archive for a database query" at sub blocks 210, 212, and 214 in Figure 7. However, the database query disclosed in Schwartz is entirely different from the database queries recited in claims 1, 17, 29, 30, and 53. As recited in these claims, a transcript of a request is used as a query into a database to retrieve a listing. In contrast, the database query of Schwartz uses a caller identification (e.g., "Caller ID") to query a database. (Col. 2, lines 42-45; col. 6, lines 23-34; and col. 11, lines 4-7 of Schwartz.) The caller identification is in no way a transcript of a request as recited in independent claims 1, 17, 29, 30, and 53. Moreover, the database of Schwartz includes information related to the calling party (i.e., the call originator), including permissions for accessing a central call recording facility, encryption preferences, and content delivery preferences. (Col. 11, lines 18-26 and 39-44 of Schwartz.) Accordingly, the data stored in the database of Schwartz is completely unrelated to using a transcript to query a database to retrieve a listing corresponding to an audible request. For at least these reasons, Schwartz fails to teach or suggest retrieving a listing by using a transcript of a request as a query into a database.

Because Gupta, Kahn, and Schwartz, each considered alone, does not teach or suggest retrieving a listing by using a transcript of a request as a query into a database, the combination of Gupta, Kahn, and Schwartz also fails to teach or suggest these limitations. For the same reasons presented above, Gupta and Kahn, taken alone or in combination fail to teach or suggest using a transcript as a query into a database. As discussed above, Schwartz also fails to teach or suggest these claim limitations. Therefore, the prior art of record, taken alone or in combination, does not teach or suggest using a transcript of a request to query a database, as recited in independent claims 1, 17, 29, 30, and 53, and these claims are allowable on this basis alone.

2. Presenting a telephone number corresponding to a listing to a caller

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Gupta, Kahn, and Schwartz, taken alone or in combination, also fail to teach or suggest other claim limitations recited in independent claims 1, 17, 29, 30, and 53, including claim limitations directed to <u>presenting a telephone number corresponding to the listing to a caller</u>. On page 2 of the Office Action, the Examiner continues to rely upon blocks 416 and 418 of Figure 3 of Gupta to reject these limitations. Neither block 416 nor 418 of Figure 3 of Gupta discloses the presenting of a telephone number corresponding to a listing to a caller. In contrast, step 416 of Gupta discloses only a re-ordering of a list of localities based on a locality-based, calculated compound probability. At step 418 of Gupta, the top three candidates of the list are selected. The re-ordering and selecting of list entries at steps 416-418 do not in any way amount to the presenting of a telephone number corresponding to a listing to a caller. Thus, Gupta fails to teach or suggest presenting a telephone number corresponding to the listing to a caller.

Kahn is relied upon merely for an alleged generation of a transcript and, as such, does not cure this deficiency of Gupta. Schwartz is relied upon merely for a database query and, as such, also fails to cure the above-described deficiency of Gupta. Furthermore, Applicants cannot find any teaching or suggestion of presenting a telephone number corresponding to a listing to a caller in Kahn or Schwartz.

For the foregoing reasons, Gupta, Kahn, and Schwartz, each taken alone or in combination, fails to teach or suggest presenting a telephone number corresponding to a listing to a caller, and these claims are allowable on this basis alone.

3.   Improper Combination of References

In addition, one of ordinary skill in the art would not have been motivated to combine Gupta, Kahn, and Schwartz. For example, one of ordinary skill in the art would not have been motivated to combine Gupta and Kahn at least because neither reference provides a motivation for the combination. On page 3 of the Office Action, the Examiner asserts that the combination of Gupta and Kahn would have been obvious because the combination "would advantageously allow for editing of unmatched speech," as disclosed at col. 2, lines 50-60 of Kahn. However, Gupta is not concerned with the editing of unmatched speech. If a request for a locality is unclear (e.g., unmatched), the system of Gupta simply passes the request to a human operator (col. 9, lines 2-3 of Gupta), at which point the human operator attempts to find a match for the request. Thus, the editing of unmatched speech disclosed in Kahn would not have motivated one of ordinary skill in the art to combine Gupta and Kahn

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as asserted by the Examiner.

     In response to the above argument against the combination of Gupta and Kahn (as presented in Applicants' previous Amendment filed September 9, 2005), the Examiner noted on page 5 of the Office Action "that both pieces of art are common to the art of operator assisted directory assistance." Applicants respectfully disagree because Kahn has nothing to do with directory assistance. Kahn is directed to an attempt to automate transcription services by moving acoustic model training tasks normally performed by end users of speech recognition software from the end users to both humans and speech recognition programs that create written text from voice dictation. (Title; Abstract; and col. 2, lines 8-25 of Kahn.) There is no teaching or suggestion in Kahn of the speech recognition software being used in directory assistance systems. The only uses of the word "directory" in Kahn are related to computer file folder directories used to organize electronic files, which directories are unrelated to directory assistance services. Thus, Kahn is unrelated to directory assistance and does not contain any motivation for asserted combination with Gupta.

     Moreover, as introduced above, the alleged modification of Gupta with the teaching of Kahn would undesirably and unallowably change the principles of the system of Gupta. In particular, Gupta is limited to using acoustic scoring to generate a list of orthographies, and any transcription of the spoken utterances received by the system of Gupta would render the acoustic scoring useless. Accordingly, the asserted combination of Gupta and Kahn does not have a reasonable expectation of success because neither reference teaches a way to generate a list of orthographies from a transcript. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)." M.P.E.P. § 2143.02. For the foregoing reasons, one of ordinary skill in the art would not have been motivated to combine Gupta and Kahn as asserted by the Examiner, and the claims are allowable on this basis alone.

     For any of the foregoing reasons, the Office Action fails to establish a *prima facie* case of obviousness against independent claims 1, 17, 29, 30, and 53. Therefore, Applicants respectfully request that the Examiner withdraw the rejections of claims 1, 17, 29, 30, and 53, and allow these claims.

B.   Independent Claim 54

     On page 2 of the Office Action, the Examiner again rejected independent claim 54 for

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the same reasons used to reject independent claims 1, 17, 29, 30, and 53. As introduced above, however, independent claim 54 recites claim limitations not included in independent claims 1, 17, 29, 30, and 53. Unfortunately, the Examiner continues to fail to consider these differences and does not address the relevant arguments presented in Applicants' previous responses filed March 4, 2005 and September 9, 2005, respectively. For example, independent claim 54 recites claim limitations directed to connecting the caller to a called party corresponding to an identified listing. Gupta, Kahn, and Schwartz, taken alone or in combination, fail to teach or suggest these claim limitations. The system of Gupta is limited to acoustic scoring techniques that use localities and probabilities to enhance the accuracy of a directory service system. Gupta does not teach or suggest a directory service system capable of connecting the caller to a called party corresponding to an identified listing. Kahn is relied upon merely for the generation of a transcript and, as such, does not cure this deficiency of Gupta. Schwartz is relied upon merely for a database query and, as such, does not cure the above-described deficiency of Gupta. For the foregoing reasons, the Office Action fails to establish a *prima facie* case of obviousness against independent claim 54, and Applicants respectfully request that the Examiner withdraw the rejection and allow this claim.

C.   Independent Claim 55

On page 2 of the Office Action, the Examiner rejected independent claim 55 for the same reasons used to reject independent claims 1, 17, 29, 30, and 53. However, independent claim 55 recites claim limitations not included in independent claims 1, 17, 29, 30, and 53. Unfortunately, the Office Action fails to consider these differences and does not address the relevant arguments presented in Applicants' previous response filed September 9, 2005. For example, independent claim 55 recites claim limitations directed to defining a required word, using a transcript of a request to identify a listing as a potential match to the request, and using the required word to determine whether to accept or reject the identified listing. With these elements, Applicants' systems and methods are capable of identifying listings that are potential matches to a request and then accepting or rejecting each of the identified listings by determining whether the request includes at least one word that has been defined as being required for the corresponding listing. In other words, an initial set of "potential-match" listings can be filtered by using one or more defined required words as filter criteria.

Gupta, Kahn, and Schwartz, taken alone or in combination, do not include any teaching or suggestion of using a required-word criterion to determine whether to accept a

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"potential-match" listing. Gupta does not teach or suggest these claim limitations. Rather, Gupta uses multiple search stages that are based on different and unrelated criteria to identify localities that may match a request. The first search stage of Gupta performs rough probabilistic calculations to extract from a speech recognition dictionary a list of possible candidates for a request. (Col. 7, lines 34-37 of Gupta.) The second search stage of Gupta uses a complex matching algorithm to rank the list of possible candidates. (Col. 7, lines 46-58 of Gupta.) The third and final search stage disclosed in Gupta compares the top two ranked candidates against a predefined numeric threshold to determine whether one of the candidates is a possible correct mapping. (Col. 7, line 59 through col. 8, line 4 of Gupta.) Not one of these search stages uses required words as criteria for filtering an initial set of "potential-match" listings, as recited in independent claim 55. Ranking a list of candidates and accepting or rejecting top-ranked candidates based on a numeric threshold is completely different from the claim limitations directed to identifying a listing as a potential match to a request, determining whether the request includes a word defined as being required for the listing, and accepting the listing when the request is determined to include the required word. Therefore, Gupta does not teach or suggest these claim limitations.

Kahn was cited merely for a disclosure of generating a transcript from a voice recording and, as such, does not cure this deficiency of Gupta. Schwartz is relied upon merely for a database query and, as such, does not cure the above-described deficiency of Gupta. Consequently, Gupta, Kahn, and Schwartz, taken alone or in combination, do not teach or suggest each and every limitation recited in claim 55. Accordingly, the Office Action fails to establish a *prima facie* case of obviousness against claim 55, and Applicants respectfully request that the Examiner withdraw the rejection and allow this claim.

D.   Dependent Claims Recite Patentable Subject Matter

Dependent claims 2-4, 6-16, and 18-28 are in condition for allowance as claims depending directly or indirectly from independent claim 1 or 17. Nevertheless, the dependent claims also recite independently patentable subject matter not taught or suggested in the prior art of record. Merely by way of example, claims 7, 12, and 23 recite claim limitations directed to determining whether to accept a listing that has been identified as a potential match to a request. The determination is made by ascertaining whether the request includes at least one word that is defined as being required in a request for the listing. Therefore, for the same reasons presented above in relation to independent claim 55, Gupta, Kahn, and

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Schwartz, taken alone or in combination, fail to teach or suggest each limitation recited in dependent claims 7, 12, and 23. Therefore, the Office Action fails to establish a *prima facie* case of obviousness against these claims, and Applicants respectfully request that the Examiner withdraw the rejections of claims 7, 12, and 23 and allow these claims.

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CONCLUSION

All rejections have been addressed. In view of the above, the presently pending claims are believed to be in condition for allowance. Accordingly, reconsideration and allowance are respect fully requested and the Examiner is respectfully requested to pass this application to issue. It is believed that any fees associated with the filing of this paper are identified in an accompanying transmittal. However, if any additional fees are required, they may be charged to Deposit Account 07-2347. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136(a) is hereby made, the fee for which should be charged against the aforementioned account.

Respectfully submitted,

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By _____

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